LCDO_Comments, BLM_NM <blm_nm_lcdo_comments@blm.gov>

Proposed Copper Flat Mine Plan and Amendments EIS

2 messages

Kierran Maher <kmaher@nmt.edu> Thu, Dec 17, 2015 at 2:51 PM
To: BLM_NM_LCDO_Comments@blm.gov

Dear BLM,

I would like to make a few comments regarding the Proposed Plan of Action and Amendments.

The Copper Flat ore body has a number of positive factors that are favorable for minimizing environmental impacts. One, from my personal experience the ore itself is generally lower in sulfide than typical ore from porphyry copper deposits which means that the amount of pyrite present in waste rock material as well as tailings is lower than what might be observed elsewhere. This means that the inherent amount of acid generation will be relatively small. Second, the intensity of hydrolitic rock alteration is relatively small in the rock volume proposed for mining (in comparison to other porphyry copper deposits) and the alteration mineralogy commonly contains the mineral calcite, which is an effective acid buffer. Thus processed rock containing calcite will be less likely to release low pH runoff. There is generally good acid buffering capacity of the host and wall rocks at Copper Flat. So, although sulfate may be elevated, the potential for mobilizing metals during oxidation is reduced. Thirdly, as the EIS indicates in the section on groundwater, the transmissivity of the pit lake water into the surrounding alluvial aquifers is low and so releases of metal impacted groundwater from the pit lake to the sorrounding aquifer is low. As discussed, the local groundwater will flow into the pit rather than out of the pit long after mining operations have ceased. The EIS indicates that there will be some long term impact to the regional water supply due to the requirement for groundwater to supply some fo the operations water requirements and I am sure this is certainly likely. The question is, does this outweigh the economic benefits of the mine?

In terms of escape of mine waste from offsite, New Mexico Copper Corp has proposed several engineering steps that would reduce the mineral processing impacts on the local surface water and groundwater systems, including engineering to control surface run-off, and the mebrane to prevent escape of water from the TSF. Recovery and reuse of process waters is industry standard, and as the EIS indicates, there cannot be 100% recycling, however, the Plan and Ammendments have carefully considered how to minimize use of groundwater. NMCC is clearly trying to follow industry best practice and I see no indication in the EIS that the operator would not be able to (or hasn't already indicated how to) successfully mitigate/minimize to acceptable levels the risk of potential releases of contaminants into the environment.

This is not to say that there will be no long-term impacts of the operation to the environment. This would be most evident in terms of a perpetual open pit and pit lake. Perhaps more significantly there will be some medium-term impacts to the regional groundwater system, which, based on the groundwater modeling, will recover after the conclusion of the operation. Most of the groundwater impacts will be related to water quantity rather than quality. If the Plan (or Amendments) is followed there should be little expectation of on-going or perpetual releases of mining waste or processing products into the environment. My biggest concern would to ensure that the operation is bonded in such a way that reclamation is guaranteed at the conclusion of the operation. However, this has been successfully done for many mining operations in the US in the recent past and no indication that it couldn't be successful at Copper Flat.

The socioeconomic impacts of the mining operation are mostly positive for the local communities and Sierra County. The mine would provide high paying employment opportunities to individuals from surrounding communities, which otherwise would not exist. There would also be indirect benefits through service contracts. Sierra County in general is economically depressed and the Copper Flat mine would provide a significant economic benefit to the regional economy. There are very few of these large scale projects occurring throughout the State of New Mexico.

Although I live and work in Socorro County I know that properly managed mining operations can provide many benefits to the surrounding communities. I've seen this in many parts of the world through my career. If properly mananged, the benefits of a mining operation can outweigh the long-term or perpetual costs to the environment. Considering the setting of the Copper Flat Project, the engineering plan proposed by NMCC, and the nature and scope of permits required for the operation, I think the risk for an substantial deliterious environmental event at Copper Flat is very low.

Regards,

Kierran Maher

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Assistant Professor of Economic Geology

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LCDO_Comments, BLM_NM <blm_nm_lcdo_comments@blm.gov> Mon, Dec 21, 2015 at 1:43 PM
To: Doug Haywood <dhaywood@blm.gov>

---------- Forwarded message ----------
From: **Kierran Maher** <kmaher@nmt.edu>
Date: Thu, Dec 17, 2015 at 2:51 PM
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